

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

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| Applicant's or agent's file reference OPP031614KR | FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below. |
| International application No. PCT/KR 2005/000380 | <div style="display: flex; justify-content: space-between;"> (Earliest) Priority Date <i>(day/month/year)</i> 9 February 2004 (09.02.2004) International filing date <i>(day/month/year)</i> 7 February 2005 (07.02.2005) </div> |
| Applicant <div style="text-align: center;">SAMSUNG ELECTRONICS CO., LTD.</div> | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see continuation of this first sheet.

2. ☐ Certain claims were found unsearchable (see continuation of this first sheet)

3. ☐ Unity of invention is lacking (see continuation of this first sheet)

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in the continuation of this first sheet. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 2

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 2005/000380

Continuation of first sheet

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

Continuation No. IV:

Text of the abstract

(Continuation of item 5 of the first sheet)

The present invention provides a thin film transistor comprising: a substrate (110); a gate electrode (124) formed on the substrate; a gate insulating layer (140) covering the substrate and the gate electrode; a source electrode and a drain electrode (173,175) formed on the gate insulating layer; a semiconductor layer (150) formed on the gate insulating layer, the source electrode and the drain electrode; and a passivation layer (180) covering the semiconductor layer, the source electrode, the drain electrode and the gate insulating layer, wherein at least one of the gate insulating layer and the passivation layer is made of Parylene.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 2005/000380

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁷: H01L 29/786, H01L 27/12, G02F 1/1368

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷: H01L, G02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Epodoc, WPI, PAJ, TXT, Inspec, XPIEE, XPESP, XPIEE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | DE 19712233 A1 (LG ELECTRONICS) 30 October 1997 (30.10.1997) <i>page 5, lines 7-11; page 11, line 61 - page 12, line 67; figures 10A-11F.</i> | 7,8,9 |
| X | US 6211928 B1 (OH et al) 3 April 2001 (03.04.2001) <i>abstract; figures 8A-8J and the associated description.</i> | 7 |
| P,X | REESE C. et al. Organic thin film transistors. Materials Today. September 2004, Vol. 7, No. 9, pages 20-27 <i>section "device design and fabrication".</i> | 1,2,3,5 |

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
24 May 2005 (24.05.2005)Date of mailing of the international search report
8 June 2005 (08.06.2005)Name and mailing address of the ISA/ AT
Austrian Patent Office
Dresdner Straße 87, A-1200 Vienna

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR 2005/000380

| Patent document cited in search report | | | Publication date | Patent family member(s) | | | Publication date |
|---|----|----------|---------------------|----------------------------|----|----------|---------------------|
| A | | | | none | | | |
| DE | A1 | 19712233 | 1997-10-30 | US | B1 | 6211928 | 2001-04-03 |
| | | | | JP | A | 10041519 | 1998-02-13 |
| | | | | GB | A | 2311653 | 1997-10-01 |
| | | | | US | A | 6100954 | 2000-08-08 |
| | | | | FR | A1 | 2746961 | 1997-10-03 |
| US | B1 | 6211928 | 2001-04-03 | DE | A1 | 19737372 | 1998-03-05 |
| | | | | JP | A | 10096963 | 1998-04-14 |
| | | | | FR | A1 | 2752988 | 1998-03-06 |
| | | | | GB | A | 2316793 | 1998-03-04 |
| | | | | US | B1 | 6188452 | 2001-02-13 |